

IN THE UNITED STATES PATENT AND TRADEMARK  
OFFICE

In re Patent Application of: Confirmation No. 8306  
Hajime Nakagawa Group Art Unit: 1752  
Application No.: 10/722,553 Examiner: Thorl Chea  
Filed: November 28, 2003  
Title: PHOTOTHERMOGRAPHIC MATERIAL

**DECLARATION PURSUANT TO 37 C.F.R. §1.132**

Honorable Commissioner of Patents and Trademarks  
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Sir:

I, Hiroyuki Mifune do declare and state as follows:

I graduated from Kyoto University with a Master's degree in Technology,  
Department of Industrial Chemistry in March 1974.

I joined Fuji Photo Film Co., Ltd. in April 1974, and from 1974 to 2001, I was  
engaged in the research and development of silver halide emulsion at Ashigara Laboratories  
(currently Digital & Photo-Imaging Materials Research Laboratories). Since 2001, I have  
been engaged in the research and development of silver halide photothermographic  
materials at the Digital & Photo-Imaging Materials Research Laboratories.

The following additional comparative experiments were carried out by me or under  
my supervision in order to make the advantages of the subject matter clearer.

### Comparative Experiment A

Photothermographic material samples 19, 22, 25, and 28 were prepared in the same manner as the preparation of sample 1 in Example 1 of the specification of the present application, except that the copolymers shown in Table A below were used in place of RP-1. Photothermographic material samples 20, 23, 26, and 29 were prepared in the same manner as the preparation of sample 2 in Example 1 of the specification of the present application, except that the copolymers shown in Table A below were used in place of RP-1. Photothermographic material samples 21, 24, 27, and 30 were prepared in the same manner as the preparation of sample 3 in Example 1 of the specification of the present application, except that the copolymers shown in Table A below were used in place of RP-1. These samples were processed in the same manner as in Example 1, and their sensitivity and storage stability were evaluated in the same manner as in Example 1. The results obtained are shown in Table A below.

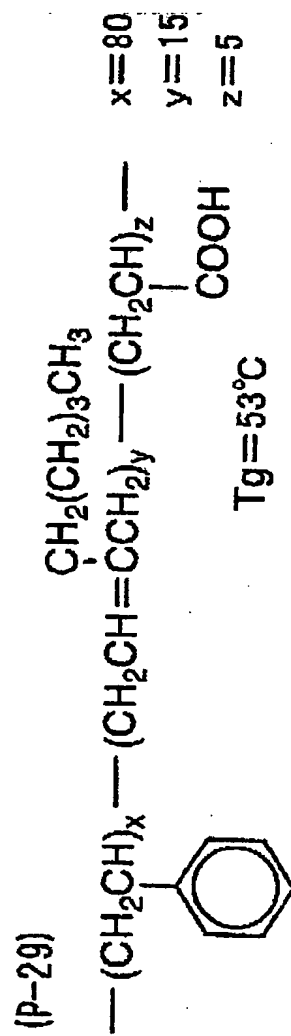
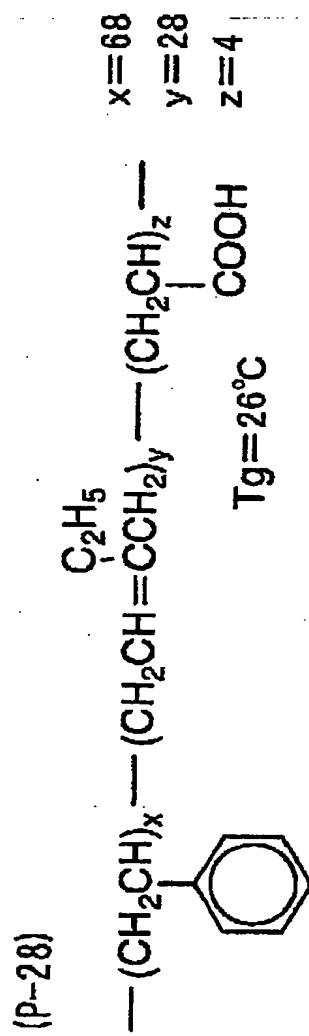
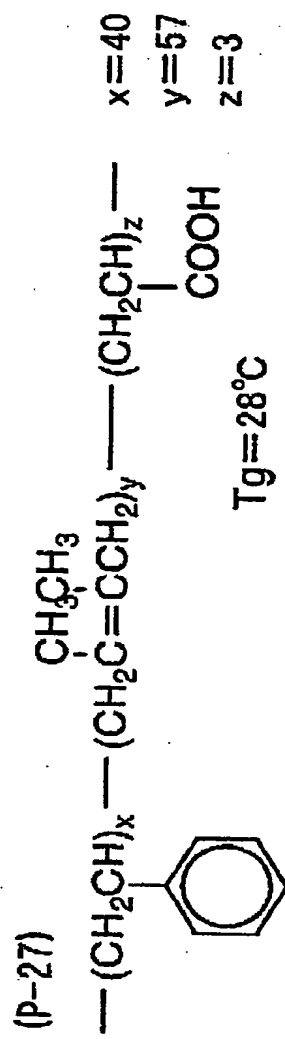
As is clear from Table A, the photothermographic material samples according to the invention, in which copolymers each containing a specified proportion of butadiene substituted by a C1 to C5 alkyl group or a halogen atom were used as the binders of the image forming layer, exhibited unexpectedly superior image storability over the comparative photothermographic samples, in which SBR latex described in paragraphs [0361] to [0363] of Fukui was used as the binder of the image forming layer. The evaluation results described in Table 2 of the specification of the present application also show the unexpected improvement of image storability realized by the presently claimed invention.

Table A

| Sample No. | Binder | Sensitivity | Image storability<br>$\Delta D_{\min}$ after storage | Remarks             |
|------------|--------|-------------|--|---------------------|
| 19         | SBR    | 0           | 100  | Comparative Example |
| 20         | SBR    | -0.05       | 95   | Comparative Example |
| 21         | SBR    | -0.23       | 81   | Comparative Example |
| 22         | P-27   | -0.01       | 42   | Invention           |
| 23         | P-27   | -0.04       | 36   | Invention           |
| 24         | P-27   | -0.33       | 33   | Invention           |
| 25         | P-28   | 0.01        | 40   | Invention           |
| 26         | P-28   | -0.04       | 37   | Invention           |
| 27         | P-28   | -0.41       | 34   | Invention           |
| 28         | P-29   | 0           | 41   | Invention           |
| 29         | P-29   | -0.03       | 39   | Invention           |
| 30         | P-29   | -0.37       | 33   | Invention           |

SBR refers to the copolymer containing non-substituted butadiene described in paragraphs [0361] to [0363] of Fukui.

The sensitivity values and  $\Delta D_{\min}$  values are relative values assuming the sensitivity of sample 19 as 0 and  $\Delta D_{\min}$  of sample 19 as 100.



## Conclusions

The claimed invention showed unexpectedly greater improvements in image storability.

I further declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true, and further, that these statements were made with the knowledge that willful false statements and like so made are punishable by fine or imprisonment, or both, under section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

DATE:

February 2, 2006

HiroYuki Mifune

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